CLAIMS

1. A serializer arranged to accept a data word from a computing system and to send the data word out bit by bit, the serializer comprising:

means for serially outputting the data word via a data line of an output port, the means for serially outputting having a control input; and

a first bit clock connected to the control input wherein the data bits are serially sent out, and wherein the first bit clock is synchronized to the define the individual bits being sent out, and wherein the first bit clock is sent out via bit clock lines of the output port, the bit clock in parallel with the data bits.

2. The serializer of claim 1 further comprising means for obtaining the data word from a bi-directional data bus of the computing system.

3. The serializer of claim 1 further comprising means for sending a word boundary comprised of a combination of signals on the bit clock and the data lines of the serial port.

4. A deserializer arranged to receive a data word bit by bit and present the data word to a computing system, the deserializer comprising:

means for serially receiving the data word bits from a data line of a serial input port, the means for serially receiving data having a control input; and

a bit clock signal synchronized to define the individual bits being received, the bit clock received from a bit clock line of the serial input port, and wherein the bit clock is connected to the control input wherein the data word bits are serially received.

5. The deserializer of claim 4 further comprising means for sending the received data word to the computing system is via a bi-directional data bus.

6. The deserializer of claim 3 further comprising means for receiving and detecting a word boundary comprised of a combination of signals on the received bit clock line and the data line.

7. A serializer/deserializer, the serializer portion arranged to accept a first data word from a computing system and to send the first data word out bit by bit, and the deserializer portion arranged to receive a second data word bit by bit and present the second data word to the computing system, the serializer/deserializer comprising:

means for serially outputting the first data word via a data line of a serial port;

the means for serially outputting having a control input;

a first bit clock connected to the control input wherein the first data bits are serially sent out, and wherein the first bit clock is synchronized to define the individual bits being sent out, and wherein the first bit clock is sent out via a bit clock line of the serial port, the first bit clock in parallel with the data bits;

means for serially receiving second data word bits from the data line of the serial port, the means for serially receiving having a second control input; and

a second bit clock signal synchronized to define the individual bits being received, the second bit clock received from the bit clock line of the serial port, and wherein the second bit clock is connected to the second control input wherein the second data word bits are serially received.

8. The serialzer/deserializer of claim 7 further comprising means for obtaining the first data word from a bi-directional data bus of the computing system, and means for sending the received second data word to the computing system is via the bi-directional data bus.

9. The serializer/deserializer of claim 7 further comprising means for forming and sending a first word boundary comprised of a combination of signals on the bit clock line and the data line of the serial port, and means for receiving and detecting a second word

boundary comprised of a combination of signals on the bit clock line and the data line of the serial port.

10. The serializer/deserializer of claim 7 further comprising means for controlling the sending and the receiving of data and bit clock over the serial data port.

11. A process for serializing that is arranged to accept a data word from a computing system and to send the data word out bit by bit, the process comprising the steps of:

serially outputting the data word via a data line of an output port;

controlling the serial outputting with a control input;

connecting a first bit clock to the control input wherein the data bits are serially sent out, and wherein the first bit clock is synchronized to define the individual bits being sent out; and

sending the first bit clock out via bit clock lines of the output port, the bit clock in parallel with the data bits.

12. The process of serializing of claim 11 further comprising the step of:

obtaining the data word from a bi-directional data bus of the computing system.

13. The process of serializing of claim 11 further comprising the step of:

sending a word boundary comprised of a combination of signals on the bit clock and the data lines of the serial port.

14. A process of de-serializing that is arranged to receive a data word bit by bit and present the data word to a computing system, the process comprising the steps of:

serially receiving the data word bits from a data line of a serial input port;

controlling the serially receiving data with a control input;

receiving a bit clock from a bit clock line of the serial input port, the bit clock synchronized to define the individual bits being received; and

connecting the bit clock to the control input wherein the data word bits are serially received.

15. The process of de-serializing of claim 14 further comprising the step of:

sending the received data word to the computing system via a bi-directional data bus.

16. The process of de-serializing of claim 14 further comprising the step of:

receiving and detecting a word boundary comprised of a combination of signals on the received bit clock line and the data line.

17. A process for serializing and de-serializing, the serializing portion arranged for accepting a first data word from a computing system and sending the first data word out bit by bit, and the de-serializing portion arranged for receiving a second data word bit by bit and presenting the second data word to the computing system, the process for serializing and de-serializing comprising the step of:

serially outputting the first data word via a data line of a serial port, the means for serially outputting having a control input;

connecting a first bit clock to the control input wherein the first data bits are serially sent out, and wherein the first bit clock is synchronized to define the individual bits being sent out;

sending out the first bit clock via a bit clock line of the serial port, the first bit clock in parallel with the data bits;

serially receiving second data word bits from the data line of the serial port, the means for serially receiving data having a second control input; and

receiving a second bit clock signal from the bit clock line of the serial port, the second bit clock synchronized to define the individual bits being received, and wherein the second bit clock is connected to the second control input wherein the second data word bits are serially received.

18. The serializing and de-serializing of claim 17 further comprising the steps of:

obtaining the first data word from a bi-directional data bus of the computing system, and sending the received second data word to the computing system is via the bi-directional data bus.

19. The serializing and de-serializing of claim 17 further comprising the steps of:

forming and sending a first word boundary comprised of a combination of signals on the bit clock line and the data line of the serial port; and

receiving and detecting a second word boundary comprised of a combination of signals on the bit clock line and the data line of the serial port.

20. The serializing and de-serializing of claim 17 further comprising the step of:

controlling the sending and the receiving of data and bit clock over the serial data port.